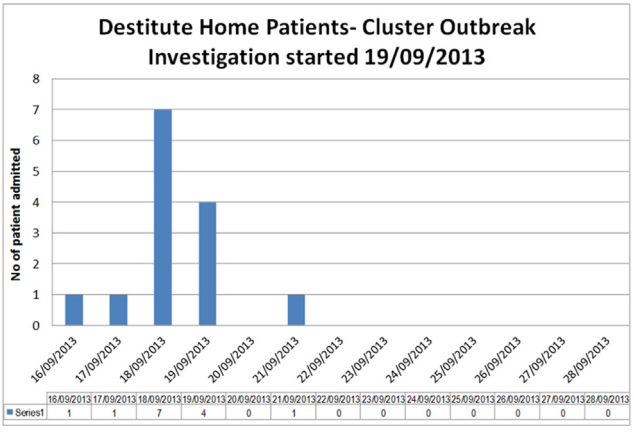
nose would be recruited into the study. HCWs from A&E and 22 inpatient wards were notified via email to help trace the location of patients who fit in this criteria. Another 6 patients were found in the wards and this made up a total of 14 patients. Epicurve was drawn up to estimate the incubation of the disease. Polymerase Chain Reaction (PCR) swab was ordered to check for influenza A and B.
Results: Among 14 patients,10 were males and 4 were females. All had fever, 6 had cough and 2 had running nose. All 14 patients were from different dormitories in the destitute home. The PCR showed that 11 patients had tested positive for Influenza A (H3N2). Reported by Ministry of Health, there was high circulating of Influenza A, H3N2 (63.2%) in the community at that time.



Conclusion: The benefit of the study has shown the importance of stepping up infection control practices in institution with crowded facility. To stop the spread of Influenza, it is important to practice good personal hygiene, wearing of surgical mask when unwell and maintaining annual vaccination program.

PS 1-096

INVESTIGATION OF AN INFLUENZA B OUTBREAK IN A NURSING HOME

L. O. Yu-Ning [a], Ming-Chin Chan [a], Ching-Mei Chang [a], Ning-Chi Wang [a], Feng-Yee Chang [b]. *[a]Infection Control Office, Tri-Service General Hospital, Taipei, Taiwan; [b]Department of Internal Medicine Tri-Service General Hospital, Taipei, Taiwan*

Purpose: The purpose of this study was to investigate the outbreak of influenza B in a nursing home. Influenza virus is classified into type A, B and C based on its nucleoprotein. Type A (Influenzavirus A) and type B cause seasonal epidemics every year, and are easy to cause outbreak. Influenza is mainly transmitted through coughs or sneezes. The latent period is one to three days. When infected, after sneezed or coughed, the virus would be inhaled by anyone nearby, so it is more likely to cause cluster of infection.
Methods: In April 2014, the nursing home had an influenza B outbreak. After ICN intervention, the infection control procedures were implemented including cleaning and sterilizing of the environment, strictly respiratory isolation, hand hygiene, and forbidden to visit with respiratory symptoms unless surgical mask was worn.
Results: Six residents and healthcare workers appeared influenza symptoms. Among them, three residents and four workers were positive for influenza B by rapid test. The ICN found an index case that one resident's daughter started to have fever and respiratory symptoms on April 1, and positive for influenza B. When she visited the index case, she did not inform about the symptom. The possibility that she did not put on the paper mask as suggested even though the mask was provided, and the limitation of the paper mask were possibly the main causes of the outbreak.
Conclusions: The influenza spreads fast and wide, and sometimes could cause severely complication. Although the nursing care institute did execute infection control procedures, i.e. visitors were asked to take temperature and verify themselves if they have respiratory symptoms before entering, paper masks were provided, visitors should take the elevator to certain floor, etc. The residents of the nursing care institute are often with lower immunity and more likely to be infected. It should not be neglected the impact of influenza may cause.

PS 1-097

INVESTIGATION AND MANAGEMENT OF A CLUSTER OF INFECTION CAUSED BY *CANDIDA ALBICANS* IN A NEONATAL INTENSIVE CARE UNIT

Li-Fang Chang [a], Meng-Hsiu Yen [a,b], Ting-Ying Chung [c], Chun-Sui Lin [c], Ping-Cherng Chiang [c,d], Hsueh-Chung Lu [c,d], Yueh-Pi Chiu [c]. *[a]Infection Control Committee, Taipei Medical Center, Taiwan; [b]Division of Infectious Disease Chang Gung Memorial Hospital — Taipei Medical Center, Taiwan; [c]Infection Control Committee, Linkou Medical Center, Taiwan; [d]Division of Infectious Disease, Chang Gung Memorial Hospital — Linkou Medical Center, Taiwan*

Purpose: In the neonatal intensive care unit (NICU) of a tertiary teaching hospital 2 patients suffered candida albicans bacteremia at May 2012 and a cluster of fungemia was suspected. An investigation was constructed to prevent or diminish the health care associated infection in this NICU.
Methods: The demographic and clinical characters of the patients with candida bacteremia were analyzed. A filed investigation was constructed inspecting the environment, the instruments, and the daily practice of the staff in caring patients.
Results: Both of the 2 patients with candida albicans bacteremia were less than 1500 gm at birth, received central venous catheter (percutaneous central venous catheter and umbilical vein catheter for each), received antibiotics, and received total parental nutrition (TPN) at the time the fungemia was diagnosed. These 2 patients were cared by different nurses at beds nearby. It was noticed that the physician caring both patients did not strictly adhere to the policy regarding the timing of hand washing. The adherence to infection control policy regarding hand washing, care of central venous catheter (CVC) especially the CVC bundle care, timing of removing central venous were discussed and re-emphasized and CVC bundle care was launched. After intervention, no new case of fungemia occurred till May 2014.
Conclusion: Neonates of premature birth are vulnerable to fungal infection for their need for parenteral nutrition and central venous catheter. Strict adhere to infection control policy and the launch of CVC bundle care should diminish the incidence of fungemia for these patients.

PS 1-098

INVESTIGATION OF A *KLEBSIELLA PNEUMONIAE* OUTBREAK IN HEMATOLOGY AND ONCOLOGY WARD OF A MEDICAL CENTER

Sung-Teng Hsu [a], Ming-Chin Chan [a], Ching-Mei Chang [a], Ning-Chi Wang [a], Feng-Yee Chang [b]. *[a]Infection Control Office, Tri-Service General Hospital, Taipei, Taiwan; [b]Department of Internal Medicine Tri-Service General Hospital, Taipei, Taiwan*

Purpose: Bloodstream infection is usually happened in Hematology and Oncology. When multiple patients infected with *K.* pneumoniae bacteremia at the same time, it is important to verify the cross-transmission. By using RAPD (random amplify polymorphic DNA), we could confirm whether the infection control procedures had exactly been done.
Methods: In August 16th to September 7th 2014, there were four *K. pneumoniae* infection cases in Hematology and Oncology ward in a medical center, which were significantly increased compared to the past. By analyzing the patient area, medical team, drug usage (anticoagulant), central venous catheter usage (port-A or PICC), and susceptibility of antibiotics of infected cases, as well as RAPD technique to verify whether there were cross-transmission, these information could be the basis for infection control.
Results: The four *K. pneumoniae* infection cases belonged to different medical teams. Moreover, the patient area, caring nurses were also different. There were no sharing of anticoagulant. However, the sensitivity tests for antibiotics were identical. Nevertheless, the RAPD showed that the bacterial isolates from the four cases were unrelated.
Conclusions: The ICN intervened and reminded for hand hygiene of healthcare workers when the second cases of *K. pneumoniae* infection appeared. Chief residents were also been asked to assist to remind interns and other healthcare workers to follow the aseptic techniques during insertion of port-A or PICC. There were two more cases appeared however. The ICN then checked whether the anticoagulant was been shared by different patients. Yet there were no sharing of the anticoagulant. Despite the same

susceptibility for four *K. pneumoniae*, their RAPD patterns were different. Although the outbreak showed no sign of cross-transmission, the infection control procedures were still important and needed to be followed.

PS 1-099

INVESTIGATE AN OUTBREAK OF *PROVIDENCIA STUARTII* INFECTIONS AT A NURSING HOME

Yi-Chu Lo, Chin-Lu Chang. *Committee of Infection Control, Tainan Municipal Hospital, Tainan, Taiwan*

Purpose: At a regional hospital in northern Taiwan, on 19 March 2013, a strain of imipenem-intermediate *Providencia stuartii* (P1) was isolated from pus of a patient came from a nursing home. On 12 May and 18 June 2014, three strains of imipenem-intermediate *P. stuartii* (P2, P3, and P4) were also isolated from urine and blood of two different patients came from the nursing home. P3 and P4 were isolated from urine and blood, respectively, of the same patient. Hence, this study was conducted to investigate an outbreak of *P. stuartii* infections.
Methods: Pulsed-field gel electrophoresis (PFGE) was used for bacterial typing. PFGE patterns were interpreted as same (no band difference), similar (≦3-band differences), or different (≧4-band differences) strain.
Results: PFGE patterns revealed P1 and P3/P4 were the similar strain, those were different from P2. P3 and P4 were the same strain.
Conclusions: As a result of this study, PFGE confirmed that this was a true outbreak of imipenem-intermediate *P. stuartii* infections at a nursing home. Although monitoring antibiotic-resistant organisms and intervention of infection control measures are one of important measures to reduce antibiotic-resistant organisms, we suggest those should be performed not only in hospitals but also in long-term care facilities in order to get better effect.

PS 1-100

CLINICAL OUTCOMES OF PATIENTS WITH *KLEBSIELLA PNEUMONIAE* OUTBREAK ISOLATES HARBORING A NOVEL KPC-17 VARIANT IN SOUTHERN TAIWAN

Wen-Liang Yu [a], Mei-Feng Lee [b], Yin-Ching Chuang [b,c]. [a]*Department of Intensive Care Medicine, Chi-Mei Medical Center, Tainan, Taiwan;* [b]*Department of Medical research, Chi-Mei Medical Center, Tainan, Taiwan;* [c]*Department of Medicine, Chi Mei Medical Center-Liou Ying, Tainan, Taiwan*

Purpose: In 2014, an outbreak of bla_{KPC-17}-containing *K. pneumoniae* (KPC-17-KP) occurred in a regional hospital in southern Taiwan. Until July 31, a total of 39 KPC-17-KP isolates were recovered, causing 33.3% mortality rate. We aimed to describe the clinical characteristics and outcome of these episodes involving KPC-17-KP isolation.
Methods: We retrospectively reviewed the demographic data (age, sex, and nursing-home resident), source of infection, days of hospital stay before onset of acquiring KPC-17-KP, previous carriage of isolates with extended-spectrum β-lactamase (ESBL) or AmpC phenotype within 3 months, recent hospitalization with 3 months, specific antibiotic therapy, in-hospital death and days of outcome from acquiring KPC-17-KP.
Results: There were 17 women, 22 men, age (mean, 82 years; range, 47—102), 23 (60%) chronic nursing-home residents, 23 nosocomial isolates after a mean hospital stay of 12 days (range, 2—47), 14 nursing-home acquired isolates and 2 community-acquired isolates. Recent hospitalization or previous carriage of ESBL/AmpC isolates within 3 months occurred in 24 (61.5%) patients. Among 3 blood isolates, 1 each was primary, from pneumonia and from urinary tract infection (UTI), resulting in 2 deaths (66.7%). Among 17 sputum isolates, 8 were from pneumonia (9 colonization), resulting in 7 deaths (41.2%). Among 19 urine isolates, 15 were from UTI (4 colonization), resulting in 4 deaths (21.1%). Effective colistin-based antibiotic therapy was given to only 6 episodes (15.4%) with 3 survivals. 13 patients died in hospital after a mean of 12 hospital days (range, 1—24) from onset of acquiring KPC-17-KP.
Conclusions: The KPC-17-KP caused 26 (66.7%) significant infections and 13 deaths (33.3%). Mortality was not significantly related to effective colistin-based therapy ($p = 0.38$).

PS 1-101

INVESTIGATION OF UPPER RESPIRATORY TRACT INFECTION OUTBREAK IN AN ACUTE PSYCHIATRY WARD OF A MEDICAL CENTER

Yu-Mai Hsu [a], Li-Hsiang Su [a], Jein-Wei Liu [a,b], Yi-Chuan Huang [a,c]. [a]*Committee of Hospital Infection Control, Taiwan;* [b]*Division of Infectious Diseases, Department of Internal Medicine, Taiwan;* [c]*Division of Infectious Diseases, Department of Pediatrics, Chang Gung Memorial Hospital-Kaohsiung Medical Center, Kaohsiung, Taiwan*

Purpose: Self care of psychiatric patients was poorer than the general people. Contagious infections (like flu) once happened, it was likely to cause cluster infection. Apart from the patients in the hospital, the staffs may also be sources of infection. Eleven staff members and 12 patients had upper respiratory tract infection symptoms in acute psychiatric wards from February 22 to March 22 in 2014. Person, time and place related investigations were held to clarify the source of infection as soon as possible and avoid the epidemic spread.
Methods: 11 staffs and 12 patients started to appear symptoms of fever, cough and sore throat. We suspected flu or *Mycoplasma* infection, so specimens were collected for examination. Infection control measures included: 1. Keep droplet precautions and restrict activity areas of patients. 2. Stop new patient admission. 3. Ask healthcare personnel to wear surgical mask and wash their hands. 4. Enhanced environmental disinfection. 5. Monitor the health status of patients, visitors and staffs.
Results: Total 15 specimens were examined. One staff member and one patient were positive for influenza A antigen, and 5 patients had high titer values of *Mycoplasma* IgG, and one patient had low positive titer of *Mycoplasma* IgM. We concluded the outbreak was flu A, but the possibility of *Mycoplasma* infection could not be ruled out.
Conclusions: The causes of this cluster infection included staff member did not inform fever immediately, and lack of timely intervention measures. Though we had body temperature monitoring system in our hospital and the ward unit also had standard measures of unusual infections. Neglect to inform early to lead to spread of the infectious disease. Health monitoring of implementation and management measures were needed. Once infection occurred, early detection and notification, identifying the pathogen and effective isolation should be done to prevent cluster infections.

PS 1-102

AN OUTBREAK OF *CHRYSEOBACTERIUM INDOLOGENES* BACTEREMIA: PSEUDOBACTEREMIA OF UNRECOGNIZED SOURCES

Chun-Wei Chiu [a,b], Yuan-Pin Hung [a,b,c], Hsiao-Ju Lin [a,b,c], Wen-Chien Ko [b]. [a]*Department of Internal Medicine, Tainan hospital, Ministry of Health and Welfare, Tainan, Taiwan;* [b]*Department of Internal Medicine, National Cheng Kung University Hospital, Tainan, Taiwan;* [c]*Graduate Institute of Clinical Medicine, National Health Research Institutes, Tainan, Taiwan*

Purpose: Some of the bacteria from blood culture might be due to contamination but others were true infection. The aim of our study is to investigate the distribution and clinical implication of blood-stream infection.
Methods: Bacteria yielded from blood culture in a district hospital between February 2013 and November 2014 was enrolled. If the same pathogen yielded from the blood of the same patient repeatedly, then only the first bacteria from blood culture was enrolled.
Results: Total 4319 pathogens from blood culture were enrolled as Figure1. The number of aerobic gram-positive cocci was 2169 (50.2%), with most of them was *Staphylococcus epidermidis* (n = 1395), followed by *Staphylococcus aureus* (n = 388) and *Enterococcus* (n = 226). The number of aerobic gram-negative bacilli was 1705 (39.5%) with 1083 was glucose-fermenting and 621 was glucose-non-fermenting. Most of the glucose-fermenting GNB was *Escherichia coli* (n = 577), *Klebsiella pneumoniae* (n = 250) and *Proteus mirabilis* (n = 54). Most of the glucose-non-fermenting GNB was *Chryseobacterium indologenes* (n = 105), *Acinetobacter baumannii* (n = 95) and *Pseudomonas aeruginosa* (n = 82). The number of fungus from blood culture was 173 with most of them was *Candida albicans* (n = 89), *Candida glabrata* (n = 37) and *Candida tropicalis* (n = 28). Because of unusual number of *Chryseobacterium* from the blood culture result, we did serial of